In the Claims:

This Listing of the Claims replaces all previous listings of the claims.

Listing of the Claims:

1. (Currently Amended) A control circuit for a signal strength information dependent frequency response adaptation of an audio signal for an electrodynamic transducer, the circuit comprising:

- a signal strength information determination means for determining a signal strength information according to a level of the audio signal, and
- a frequency modifying means for selectively modifying the audio signal in response to the signal strength information to adapt the frequency response of the audio signal to the electromechanical properties of the ~~electromagnetic~~ electrodynamic transducer such that the electrodynamic transducer converts the audio signal into a low distortion sound signal for high levels of the audio signal and has a flat frequency response for low levels of the audio signal,

wherein a lower frequency range of the audio signal is modified with a gain that is different than a gain of a higher frequency range of the audio signal, and a cutoff frequency separating the lower frequency range from the higher frequency range is shifted towards higher values for an increasing level of the audio signal and towards lower values for a decreasing level of the audio signal, the cutoff frequency being the same or lower than a resonant frequency of the electrodynamic transducer for the lower frequency range.

2. (Previously Presented) A control circuit according to claim 1, wherein the modifying means comprises a high-pass filter, the cut-off frequency of which is shifted towards higher frequencies for increasing levels of the audio signal and is shifted towards lower frequencies for decreasing levels of the audio signal.

3. (Previously Presented) A control circuit according to claim 1, wherein the level of the audio signal is determined by a volume setting.

4. (Previously Presented) A control circuit according to claim 1, wherein the level of the audio signal is determined from a current amplitude or from a current energy content of the audio signal with respect to a full frequency range of the audio signal.

5. (Previously Presented) A control circuit according to claim 1, wherein the level of the audio signal is determined from a current amplitude or from a current energy content of a lower frequency range of the audio signal.

6. (Previously Presented) A control circuit according to claim 2, wherein the cut-off frequency of the high pass filter is shifted proportional to a square root of a peak amplitude of the audio signal.

7. (Previously Presented) A control circuit according to claim 2, wherein the cut-off frequency of the high pass filter is shifted proportional to a square root of a root mean square value of a frequency of the audio signal.

8. (Previously Presented) A control circuit according to claim 1, wherein the modifying means comprises a frequency range selective gain control for decreasing the gain of the higher frequency range of the audio signal corresponding to a decrease in a volume setting of the audio signal.

9. (Previously Presented) A control circuit according to claim 1, wherein the modifying means comprises a frequency range selective gain control for decreasing the gain of the lower frequency range of the audio signal corresponding to an increase in the level of the audio signal.

10. (Previously Presented) A control circuit according to claim 8, wherein the gain of the modifying means in the lower frequency range of the audio signal is independent of a

volume setting of the audio signal.

11. (Previously Presented) A control circuit according to claim 10, wherein the gain of the modifying means in the lower frequency range of the audio signal has a constant value or decreases for a decreasing level of the audio signal, the gain in the lower frequency range being higher than the gain for the higher frequency range of the audio signal.

12. (Previously Presented) A control circuit according to claim 1, wherein the level of the audio signal is determined according to electro-mechanical properties of the electrodynamic transducer.

13. (Previously Presented) A control circuit according to claim 1, wherein a cut-off steepness of a filter and/or of a frequency range progresses approximately with the square of the frequency.

14. (Currently Amended) A method for a signal strength information dependent frequency response adaptation of an audio signal for an electro-dynamic transducer, the method comprising:

- determining a signal strength information according to a level of the audio signal, and
- selectively modifying a frequency of the audio signal in response to the signal strength information to adapt the frequency response of the audio signal to the electromechanical properties of the ~~electromagnetic~~ electrodynamic transducer such that the electro-dynamic transducer converts the audio signal into a low distortion sound signal for high levels of the audio signal and has a flat frequency response for low levels of the audio signal,

wherein a lower frequency range of the audio signal is modified with a gain that is different than a gain of a higher frequency range of the audio signal, and a cutoff frequency separating the lower frequency range from the higher frequency range is shifted towards higher values for an increasing level of the audio signal and towards lower values for a decreasing level of the audio signal, the cutoff frequency being the same or lower than a resonant frequency of

the electrodynamic transducer for the lower frequency range.

15. (Previously Presented) A method according to claim 14, comprising determining the level of the audio signal based on a volume setting.

16. (Previously Presented) A method according to claim 14, comprising determining the level of the audio signal from a current amplitude or from a current energy content of the audio signal with respect to a full frequency range of the audio signal.

17. (Previously Presented) A method according to claim 14, comprising determining the level of the audio signal from a current amplitude or from a current energy content of a lower frequency range of the audio signal.

18. (Previously Presented) A method according to claim 14, comprising shifting the cut-off frequency separating the lower frequency range from the higher frequency range proportional to a square root of a peak amplitude of the audio signal.

19. (Previously Presented) A method according to claim 14, comprising shifting the cut-off frequency separating the lower frequency range from the higher frequency range proportional to a square root of a root mean square value of a frequency of the audio signal.

20. (Previously Presented) A method according to claim 14, comprising decreasing the gain of the higher frequency range of the audio signal corresponding to a decrease in a volume setting of the audio signal.

21. (Previously Presented) A method according to claim 14, comprising decreasing the gain of the lower frequency range of the audio signal corresponding to an increase in the level of the audio signal.

22. (Previously Presented) A method according to claim 20, wherein the method comprises a step for controlling the gain in the lower frequency range of the audio signal independent of the volume setting.

23. (Previously Presented) A method according to claim 22, wherein the method comprises a step for adjusting the gain in the lower frequency range of the audio signal at a constant value or by decreasing the value of the gain for an increasing level of the audio signal, whereby the gain of the lower frequency range of the audio signal is adjusted to a higher value than that for the higher frequency range of the respective audio signal.

24. (Previously Presented) A method according to one of the claim 14 wherein the method comprises a step for weighting the level and the frequency distribution of the audio signal according to the electro-mechanical properties of the electro- dynamic transducer (4).

25. (Previously Presented) A method according to claim 14, comprising controlling a transition in the gain from the lower frequency range to the higher frequency range such that a steepness of the transition is set approximately proportional to a square of the frequency.

26. (Currently Amended) A computer software product for use on an audio system, the computer program product comprising:

a computer readable medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code configured to determine a signal strength information according to a level of the audio signal, and

computer readable program code configured to selectively modify a frequency of the audio signal in response to the signal strength information to adapt the frequency response of the audio signal to the electromechanical properties of the ~~electromagnetic~~ electrodynamic transducer such that the electro-dynamic transducer converts the audio signal into a low

distortion sound signal for high levels of the audio signal and has a flat frequency response for low levels of the audio signal,

wherein a lower frequency range of the audio signal is modified with a gain that is different than a gain of a higher frequency range of the audio signal, and a cutoff frequency separating the lower frequency range from the higher frequency range is shifted towards higher values for an increasing level of the audio signal and towards lower values for a decreasing level of the audio signal, the cutoff frequency being the same or lower than a resonant frequency of the electrodynamic transducer for the lower frequency range.

27. (Currently Amended) A mobile telecommunication terminal comprising a control circuit for a signal strength information dependent frequency response adaptation of an audio signal for an electrodynamic transducer, the control circuit of the mobile telecommunications terminal comprising:

- a signal strength information determination means for determining a signal strength information according to a level of the audio signal, and
- a frequency modifying means for selectively modifying the audio signal in response to the signal strength information to adapt the frequency response of the audio signal to the electromechanical properties of the ~~electromagnetic~~ electrodynamic transducer such that the electrodynamic transducer converts the audio signal into a low distortion sound signal for high levels of the audio signal and has a flat frequency response for low levels of the audio signal,

wherein a lower frequency range of the audio signal is modified with a gain that is different than a gain of a higher frequency range of the audio signal, and a cutoff frequency separating the lower frequency range from the higher frequency range is shifted towards higher values for an increasing level of the audio signal and towards lower values for a decreasing level of the audio signal, the cutoff frequency being the same or lower than a resonant frequency of the electrodynamic transducer for the lower frequency range.

28. (Canceled)